

# EXHIBIT 4

**U.S. Patent No. 8,284,690 (the “’690 Patent”) Exemplary Infringement Chart**

Cox operates and maintains a nationwide television and data network through which it sells, leases, and offers for sale products and services, including the Arris SB6183 cable modem, Arris CM8200 cable modem, Technicolor CGM4141 cable modem, Technicolor CGM4331 cable modem, and products that operate in a similar manner (“Accused Cable Modem Products”), as well as the Arris AX013ANC STB, Arris AX013ANM STB, Pace PX022ANC STB, Pace PX022ANM STB, Samsung SX022ANC STB, Samsung SX022ANM STB, and products that operate in a similar manner (“Accused Set Top Products”). Cox provides cable television and internet services (“Accused Services”) via the lease, sale, and/or distribution of the Accused Cable Modem Products and/or the Accused Set Top Products. Cox literally and/or under the doctrine of equivalents infringes the claims of the ’690 Patent under 35 U.S.C. § 271(a) by making, using, selling, offering for sale, and/or importing the Accused Services, Accused Cable Modem Products, and/or the Accused Set Top Products.

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<b>1pre</b>	A method comprising:	The Accused Services perform the claimed method utilizing, for example, including a Cable Modem Termination System (“CMTS”) and/or Converged Cable Access Platform (“CCAP”) operated by Cox and at least one Accused Cable Modem Product located at each subscriber location, including, for example, the Arris SB6183 cable modem, Arris CM8200 cable modem, Technicolor CGM4141 cable modem, Technicolor CGM4331 cable modem, and products that operate in a similar manner. By way of example, the Technicolor CGM4141 cable modem is charted herein.
<b>1a</b>	a) receiving in a first node, a probe request specifying a first plurality of parameters associated with the generation and transmission of a probe, wherein the first plurality of parameters at least specify content payload of the probe and a second node;	<p>The Accused Services include receiving in a first node, a probe request specifying a first plurality of parameters associated with the generation and transmission of a probe, wherein the first plurality of parameters at least specify content payload of the probe and a second node.</p> <p>Specifically, the Technicolor CGM4141, using circuitry and/or applicable software modules located in the Technicolor CGM4141, samples and digitizes the entire 1GHz downstream spectrum of a cable plant and includes remote diagnostics capabilities that provide real time, unobtrusive diagnostic and spectrum analysis capabilities. These remote</p>

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		diagnostic capabilities include measuring statistics of the downstream spectrum. The Technicolor CGM4141 provides an agent that receives requests querying the performance of the downstream spectrum from a second node. Upon information and belief, the requests include the first plurality of parameters that at least specify content payload of the probe and the second node. For example, in a deployed system, the first node may be a cable modem and the second node may be a CMTS and/or CCAP.
<b>1b</b>	b) determining a second plurality of parameters associated with generation and transmission of the probe;	<p>The Accused Cable Modem Products determine a second plurality of parameters associated with generation and transmission of the probe.</p> <p>Specifically, the Technicolor CGM4141 determines information responsive to the received request based on the measured statistics of the downstream spectrum. Upon information and belief, the information includes a second plurality of parameters associated with the generation and transmission of the probe.</p>
<b>1c</b>	c) generating the probe in accordance with the first plurality of parameters and the second plurality of parameters, wherein the probe has a form dictated by the first plurality of parameters; and	<p>The Accused Cable Modem Products generate the probe in accordance with the first plurality of parameters and the second plurality of parameters, wherein the probe has a form dictated by the first plurality of parameters.</p> <p>Specifically, the Technicolor CGM4141 generates a message responsive to the received request, the message indicating the responsive information and having a particular form determined by the request.</p>
<b>1d</b>	d) transmitting the probe from the first node to the second node.	<p>The Accused Cable Modem Product transmit the probe from the first node to the second node.</p> <p>Specifically, the Technicolor CGM4141 transmits the message to the second node using its agent.</p>
<b>7</b>	The method of claim 1, wherein the probe request requests a	The probe request requests a probe that assists in diagnosing a network problem.

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	probe that assists in diagnosing a network problem.	Specifically, the Technicolor CGM4141, using circuitry and/or applicable software modules located in the Technicolor CGM4141, provides remote diagnostics capabilities that provide real time, unobtrusive diagnostic and spectrum analysis capabilities related to diagnosing network problems. Upon information and belief, Cox utilizes these remote diagnostic capabilities to assist in diagnosing a network problem.
<b>8</b>	The method of claim 7, wherein the probe request is generated by a network operator and uploaded to the second node.	The probe request is generated by a network operator and uploaded to the second node.  Specifically, a collector server operated by Cox provides the probe request to the second node.
<b>9pre</b>	A method comprising:	The Accused Services perform the claimed method utilizing, for example, including a Cable Modem Termination System (“CMTS”) and/or Converged Cable Access Platform (“CCAP”) operated by Cox and at least one cable modem located at each subscriber location, including, for example, the Arris SB6183 cable modem, Arris CM8200 cable modem, Technicolor CGM4141 cable modem, Technicolor CGM4331 cable modem, and products that operate in a similar manner.
<b>9a</b>	a) a first node transmitting a probe request to a second node, the probe request specifying a first plurality of probe parameters for a physical layer probe, the first plurality of probe parameters comprising a form for the probe including a modulation profile for the probe;	The Accused Services include a first node transmitting a probe request to a second node, the probe request specifying a first plurality of probe parameters for a physical layer probe, the first plurality of probe parameters comprising a form for the probe including a modulation profile for the probe.  Specifically, the CMTS and/or CCAP provides a set of SNMP (Simple Network Management Protocol) variables supported by the CMTS known collectively as the MIB (Management Information Base). The MIBs includes support for per modem/per upstream channel stats, RCC definitions, per MAC event handling, per modem event handling and counts, and per modem impairment reporting. The CMTS and/or CCAP transmits, to cable modems, requests specifying parameters as defined in the MIBs. The requests have a

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		modulation profile. For example, in a deployed system, the first node may be at least a CMTS and/or CCAP and the second node may be a cable modem.
<b>9b</b>	b) the first node receiving the probe from the second node, wherein the probe is generated in accordance with the first plurality of parameters and in accordance with a second plurality of parameters determined by the second node.	<p>The CMTS and/or CCAP receives the probe from the second node, wherein the probe is generated in accordance with the first plurality of parameters and in accordance with a second plurality of parameters determined by the second node.</p> <p>Specifically, the CMTS and/or CCAP receives, from the cable modems, messages responsive to the requests. The message includes data relevant to the request and generated based on the MIBs.</p>
<b>11pre</b>	The method of claim 9, further comprising:	See 9pre.
<b>11a</b>	a) the first node transmitting a second probe request to a third node;	See 9a.
<b>11b</b>	b) and the first node receiving a second probe from the third node, wherein the second probe is generated according to the second probe request; and	See 9b.
<b>11d</b>	wherein the first probe and second probe are transmitted simultaneously using OFDMA.	The first probe and second probe are transmitted simultaneously using OFDMA.
<b>15</b>	The method of claim 9, wherein the probe request is configured to diagnose a network problem.	The probe request is configured to diagnose a network problem.

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		Upon information and belief, Cox utilizes these remote diagnostic capabilities to assist in diagnosing a network problem. For example, the MIBs may include support for per modem/per upstream channel stats, RCC definitions, per MAC event handling, per modem event handling and counts, and per modem impairment reporting, which can be used to diagnose a network problem.
<b>16</b>	The method of claim 15, wherein the probe request is generated by a network operator and uploaded to the first node.	<p>The probe request is generated by a network operator and uploaded to the first node.</p> <p>Specifically, a collector server operated by Cox can provide the probe request to the first node.</p>